

Loneliness among elderly people in China-- A comparison and contrast between nursing homes and assisted living community& future development of elder's care system

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ABSTRACT

The vast majority of study about loneliness among elderly people is conduct in either assisted living community setting or nursing homes, little focused on comparing and contrast between the two setting and improving future caring system among elders. The main research method I am using is qualitative analysis of previous researches, government archives and nursing home webpage. It is found that factors that lead to the development of loneliness in nursing homes and assisted living community are coincident but there are also some predictive factors varying in the two setting. The final product is a creative model of a new-form elder's care system which could better maintain elderly people's psychological well-being and inhibit the occurrence of loneliness. This project would contribute to future researches on elderly caring system and also call on researches about solving the financial problem of establishing a more complete caring system among elders.

Keywords: *Loneliness; Elderly people; assisted living community; nursing homes; model of future caring system*

1. INTRODUCTION

In today's society, there are lots of "empty nesters" who are elders living alone and socially isolated from the rest of social groups. Although people research a lot in the area of elder's loneliness, there is a lack of research focused on comparing and contrasting elderly people living in nursing homes and assisted living communities. The research question is: What contributes to the varying degrees of loneliness experienced by the elderly living in nursing homes and assisted living communities? What are some of the similarities and differences in the way that loneliness is experienced in each of these settings? Through systematical review of the previous research, in this report we describe several factors leading to the development of loneliness and also evaluate if the service provided in nursing house effective in maintaining psychological well-being among elders. Another question worthy of investigation would be, is the service provided in the nursing homes effective in maintaining well-being among elders?

1.1. Literature Review

Loneliness is a kind of feeling generated because the lack of company, thus entering into a state of solitude. It has also been defined as an unfavorable balance between actual and desired social contact (Ernst & Cacioppo, 1999). While

individuals in large social networks are all at risk experience loneliness, elderly people are a group that could be easily isolated after experiencing quantitative and qualitative changes in this social network because their vulnerability which may lead to social isolation and gradually develop the feeling of loneliness. What need to be strengthened is the difference between the term of social isolation, loneliness and social support. Social isolation refers to the physical separation in an area while loneliness refers to a more subjective feeling of alone and aloof (Joe, Sharon & Rebecca, 2006). Research shows that there is a positive correlation between social support and desirable health outcomes. The literature review discusses how aging affects elderly people's physical health, and that in some degrees may contribute to increased mortality rates, the correlation between the elderly's loneliness and their social network, and also evaluations of nursing homes distributed in diverse cultural settings. In a society, community and nursing homes are two major settings where elderly people become situated, this research is going to compare and contrast the feeling of loneliness among elderly people in these two settings in Beijing.

1.1.1. The development of loneliness and its lasting effects

A series of previous literature summarized by Lorenzen, et al. (2019) defined loneliness as a subjective and innermost feeling when experiencing social changes and the process of developing loneliness is distinct due to individual

differences especially in the case of elderly people. In recent decades, the population of elderly people whose age is among 65 years old increase dramatically which bring both positive and negative results. For the positive one, it represents the average life span of people is expanding because people are healthier than before.

On the other hand, vulnerability also increased as the growing age, elders are more likely to encounter social isolation that might make them less healthy (Dury & Rona, 2014). A negative circulatory cycle of mental health and social relationship is formed because loneliness could be harmful to elder's mental health by arousing negative feelings. The negative cycle caused by loneliness may be presented in a case study which provides a real story of an old man who suffered loneliness and his relationship with his daughter and caregiver. The study asked Mr. A to describe his personal experiences of the process developing loneliness. The man stated that the loss of his wife made him experience misery and at the same time he felt more depressed when his daughter did not care about his feelings and rarely came home (Meyer, et al, 2011). Thus, it shows that the loss of spouse and lack of family support could lead to loneliness.

Many factors can contribute to the development of loneliness. Hazer & Boylu (2010) provide abundant of factors which may cause loneliness such as gender, age, marital status, children, regular income, frequency of visiting with children or relatives, perceived health status, education and household composition. They also found that there are conflicting results as to whether childlessness has an impact on the experiences of loneliness. Although some studies have shown that childlessness is not associated with loneliness (Zhang & Hayward, 2001; Koropecyk, 1998), they still believe that childlessness causes adults have less desire to keep frequently contact with families and friends (Mullins & Dugan, 1990).

Demographic factors and different experiences between individuals are two main sources generating loneliness, but it is hard to comprise and estimate the myriad factors that may contribute to the feeling of loneliness. However, these specific factors could be summarized as three more significant term: social isolation, social support and physical health, after defining that, researchers conduct studies closely focus on the correlated relationships between the three and loneliness.

1.1.2. Relationship between social isolation, physical health, social support and loneliness

The study conducted by Arslantaş, et al (2015) directly focus on the relationship between the level of social isolation and loneliness. "The level" is crucial because it quantifies social isolation which has not occur in any of the study previously. The study concluded results from data providing by the Cardiovascular Health study which is large enough to minimized bias and it was found that chronic health problems and lack of hobbies, both negatively cause deeper level of social isolation which lead

to loneliness among elders. Lynch, James J, and William H. Convey (2011) also stated that elders living alone have a lack of awareness of the strong emotional reactions to interpersonal interactions thus likely to suffer from cardiovascular diseases such as coronary heart disease and hypertensive disease which caused by emotional upheaval and directly lead to higher mortality among elders.

Instead of directly analyze the data, Dong, X., & Simon (2014) design the vulnerability index constructed from social demographic, health related and psychological factors which comprehensively include demographic variables that were assessed prior to the report of elderly abuse including age (in years), sex (men or women), race (black versus white), income categories and health related index. It is concluded that the cognitive impairment and physical function impairment are both associated with an increase in risk for elder abuse. Furthermore, the method of using vulnerability risk index is useful in other communities on account of its effective prediction for elders who are risky for elder abuse can be drew. However, the limitation of this study is additional factors that may cause the increased risk of elderly abuse are not considered here.

In consideration of both social support and health status, the study employs interview questions and option question based on subjective health and social network that are answered by elderly people in a follow-up study. The answers collected show that the rate of elders losing their close friends increased which lead to lack of friendly contact, also, the feeling of subjectively healthy decrease in the follow-up studies. It is deduced that the self-satisfaction of health and positive support from friend and family are significant among elders. The study also gives possible reasons on the aging population itself and external conditions (housing) of the decreased satisfaction (Holmén, Karin & Hidetochi Furukawa, 2002).

Social support from family members and friends are essential to elder people due to its effect on elder's mentality, while physical & cognitive function also play a role in the process of developing loneliness. There is also another institution that provide care for elders----nursing house. Mass of elderly people nowadays choose to reside in a nursing house. Regardless of the background of each elder, the case in the nursing house need to be discussed for the reason that elder's family cannot provide support directly compare to community-dwelling elderly people.

1.1.3. Elders in Nursing Homes

Aiming to find the relationship between nursing house services and quality of elder's life in Taiwan, Tu & Yu-Ching (2016) collected data from demographic scale, QOL (Quality of life) index scale, patient empowerment scale physical functional scale and ADL scale, it is indicate that the level of QOL among the residents is at a medium level and ADL & marital status are significant factors for the level of QOL. ADL Most significantly, there is no redundant disempowered care in the case.

Accepting the big environment of the cultural background such as value and acculturation, a questionnaire (family obligations, supposed support from family as independent variables, loneliness and social isolation were measured as dependent variables) answered by ethnic minority elders in two cities of Ontario manifest that structural and cultural barriers both contributed to loneliness and good family relationships seems to be important than non-family relationships in Ontario, Canada. Education effectively reduce the rate of experiencing loneliness. Also, the flexibility of the questionnaire is also a great value for the society of minority (Laura Garcia Diaz, 2019)

The service of nursing house is strongly demanded, nevertheless, the situation of nursing house market is not optimistic. Insights stated by previous scientists and researchers summarized by Challis state that many countries have really big services market, but there are still problems remained because the imbalance of residential and nursing house. The shortage of labor in service markets as well as the increasing demand cause the imbalance while the diverse notion of quality and inevitable changes causes the fluctuation of quality (Challis, et al., 2003).

1.1.4. Summary & Conclusion

The studies above show how elder's social network and physical health both forced the development of loneliness in different settings (culture & environment). However, the studies were conducted only either in community base or nursing house base, so there is no association between the two settings. Elderly people do not only live in their own houses but also receiving care in nursing house, while elders living in nursing house and in the community have completely distinct environment surrounded them which would shape their social network as well as their physical and mental health. Consider that in a society nursing home is the major institution which supply services for elderly and domestic home is also where most elders live, so my survey will be conducted in these two settings: the nursing house and domestic elders in Beijing. The research questions are: 1. what cause the level of loneliness diverse in the two settings 2. what are some of similarities and differences between factors contribute to loneliness. The aim of my topic is to provide comprehensive and multi-perspective understanding of the elderly people who are enduring loneliness or those who are on the way of developing loneliness, furthermore, original solutions toward the specific issue will be provided.

2. METHODS

Because this study is a secondary research, the main source of data will be previous research papers about elderly people's loneliness and their well-being. Most of the research paper are from www.cnki.net which is one of the most authoritative source of academic paper in China. And

other data is collected from Nursing homes webpage and Government archives.

3. FINDINGS

In Society in China, the aging populations is growing larger and larger, there is a special group in China which called "empty nesters". They are elders who live alone due to the departure of their children to distant workplace.

3.1. Elderly in Assisted community

3.1.1. Family support

The most apparent factor which leads to loneliness is lack of family support. Recently, because the rapid population movement and the early policy of restricting birth to one child per couple, the proportion of parents of only children entering empty nest gradually increases.

So Elderly people who live alone and who are in widow are more like to feeling lonely. And when elderly people subjectively perceive they are not accepted by outer world, it is easily to form a vicious cycle, then they are even more reluctant to engage in social interaction.

The decaying of social skills will cause social anxiety. But the study of Wu Lina & XU Hongbo shows that elders are not likely to experience social anxiety due to abundant life experiences when interacting with others in previous life. This implies that even though some elderly people are willing to talk to others, they do not have a chance to get in touch with people due to social isolation (Wu Lina & XU Hongbo, et al 2020).

3.1.2. Gender

An interesting phenomenon occurred in Wu Lina's study is that When the choosing sample contain more female elders, the percentage of elders who experience loneliness seems to decrease. One of the reasons is that Women tend to having more social relationships with their children and grand children thus have a low feeling of loneliness compare to male elders. Xia Xiu's study also support the idea of loneliness among female elders is lower than male elder's, which is possibly associated with social roles (Xia Xiu, 2015). Another explanation is that Elderly Women do not have more internal susceptibility to loneliness than elderly men, but because women are more likely to encounter lonely external susceptibility factors (such as widowhood) than men (Zhou Xiaoli & Song Mei, 2014).

3.1.3. Habits

Drinking liquors seems not to be a positive habit to elderly people in many people's opinion, because it leads to

diseases such as high blood pressure, heart disease, stroke & liver disease, but this is not the only way to viewing liquors. Firstly, Drinking liquor is good for elderly people's mental health and a prevention to the feeling of loneliness loneliness. Drinking liquors could regulate life, lessen stress and also lifts spirit. When elderly people hold positive moods, they are more likely to engage in social calendars (MaXiaofu & Chen Changxian, et al.2020).

Smoking could somewhat help elders maintain their social contact in some way. The elderly with smoking had the lowest loneliness score, which was different from Cui Guanghui 's study on the elderly in an area of Anhui which the smokers' loneliness score is higher. The reason behind is that the elderly used smoking as a social methods to keep connecting with others (MaXiaofu & Chen Changxian, et al.2020).

Another habit is playing sports.

3.1.4. Hobbies

Same as drinking and smoking, hobby is also a big category which could

Cultivating hobbies that can last a lifetime is of great significance to a person. The study of Xia Xiu shows that people who have hobbies could reduce psychological loneliness, which is consistent with the perspective of social medicine. Hobby is a way for the elderly people to attach their mood. Also, hobbies can also assemble groups who have same hobbies, communication between the groups can greatly reduce the psychological loneliness of the elderly(Xia Xiu, 2015)

One of the healthy hobby for elders might be doing sports. Fubin & Chen Changxiang's research indicates that exercise can excite the central nervous system. The movement of muscles transmitted to the brain through feedback nerves to regulate the emotions of the elderly, so that the elderly can maintain a relaxed and positive mood and positive optimism. Activities can also produce psychological cognitive stimulation and help delay psychological weakness among elderly people(Fubin & Chen Changxian, 2020).

Hu Huixiu & Wang Zhiwen's conclusion could also prove that. Exercising could strengthen and enhance physical fitness. It is shown that physical health is one of the main factors influencing the feeling of depression among elders. The more physical diseases, the more discomfort symptoms to the elders, especially some of the chronic diseases, which would bring a long period of unhappy, depressed and pessimistic feelings; the treatment of chronic diseases may cause a lot of medical expenses consuming puts a heavy burden on the family, which seriously increases the negative emotions of the elderly, leading to a marked increase in the incidence of depression. In addition, the elderly who are engaged in physical exercise are more positive and optimistic psychologically and enjoy life. Therefore, we should strengthen the support of nursing home hardware equipment, provide the elderly with various indoor and outdoor physical exercise opportunities and places, and encourage the elderly to actively participate in

physical exercise to reduce the incidence of depression(Hu Huixiu, Wang Zhiwen and et al, 2014)

Physical exercise can strengthen physical fitness and enhance physical fitness. Studies have shown that physical health is one of the main factors influencing depression in the elderly. Accompanying Due to physical weakness and incapacitation, the elderly's functional limitations such as respiratory and motor systems limit the frequency and quality of social participation, less communication with the outside world, and weak emotional support (Liu Xueming, Chen Changxiang ans et al, 2018).

3.2. China's nursing house services

Liu Xueming & Chen Changxiang's study shows that 73.5% housebound elders felt lonely at middle level or above, and the correlated factor—the disability rate is 100% while frailty rate is 86.2%. The results reveal that except personality, communication with friends and the desire to expressing are crucial factors that cause the higher level of, frailty and disability play an important role in the process. Also, communication with their children also have a great impact due to the fact that most elderly people's emotional support depends on their children. Children never adopt elder's opinion play a role in such situation because children's affirm to their decision cause elderly people more engaging in family affairs thus cause the increase of self-value and the decrease in the feeling of loneliness (Liu Xueming & Chen Changxiang, et al. 2018).

Elders in Beijing First Social Welfare institute retirement district social welfare center have nearly 90 % who experience loneliness. The depression level among elders in nursing home is related to loneliness. There is a positive correlation between loneliness and depression and it has been found that the performing activities of daily living-ADL, widowhood, time residing in the nursing homes and playing sports are also predictive factors lead to loneliness (Wang Zhiwen& Li Xiaowei.et al, 2014).

Zhou Jianhong & Ma Xiuqiang's study on the factors which have influence the loneliness of elders in nursing home in Shanghai find that living in nursing homes with family members, frequency of doing sports and with children or not.

4. DISCUSSION

4.1. Similarities

The most frequently appearing word in both two settings is family support, with or without children, widowhood and habits

Elderly people with children have lower loneliness scores than elderly people without children. As a special group in the larger group of elders, social and communication range of childless elderly seems to be more narrow. No people who come to visit cause mental deprivation and very fragile

mentality and therefore they are increasingly lonely. Another factor, widowhood, has similar mechanism compared to with or without children. It is an extremely for those who lose their husband/wife. For the elderly, spouses have an irreplaceable role in daily life care and mental comfort in later life. Elderly people often feel lonely after losing a partner and are prone to depression. This is also proved by the study conducted by Chen Lixin in 8 district in Beijing.

Family seems to be a summative word of spouse support and children support. Family support is crucial to Elderly people in China because most residents of place emphasis on affection between family members and expect close and interdependent family relationships, so there is no doubt that elders need the understanding and support from their most related family members—Children & husband/wife. Social roles cause the different level of loneliness between male elderly people and female elderly people. In China, Men are trying to fit the expectations of self-bearing all the pressure and negative emotions from the outside world and rarely talk about their emotions to others, so the accumulated negative feelings gradually develop to the feeling of loneliness. Compared to men, women are allowed to express their emotions in most of the cases so whenever they get a negative feeling, they will find ways to release psychological burden and loneliness. For elder Women in China particularly, Women are more likely to engage in a social activities called square dances. The word itself is refers to a group of elderly women dance together in a square matrix. But Men rarely have this kind of entertainment, the only social activity for them might be playing chess, which is also a kind of intelligence competition rather than a way to entertain for eliminate negative emotions.

4.2. Differences

The most significant difference between elderly people who live in nursing homes and those who live in community is that nursing home elders in Beijing, China have higher disability level thus cause a high level of loneliness. The reason behind this is due to the special nursing home services: most of nursing homes in Beijing are designed for elders that could not perform activities of daily living or even. From the perspective of physical health, old people with no bowel incontinence and low levels of incapacitation have low loneliness. It may be due to the fact that most people with bowel incontinence are bedridden for a long time, severely restricting their mobility and limited social skills; while suffering from illness, they have great psychological pressure, increased shame, frustrated self-esteem, and reduced self-worth. As a result, loneliness is greatly increased.

4.3. Model

4.3.1. Social Activities

It is recommended for elderly people who are smoking and drinking to do it in an appropriate amount, and it is not recommended for the elderly to quit smoking and alcohol. However, Drinking and smoking are, in part, social activities. Drinking in solitude may contribute to dampening the effects of stress and anxiety, but it would be difficult to defend sustained periods of drinking in isolation as a health benefit. It is not the alcohol itself that provides any kind of health benefit. Being able to have a drink when elders want gives them a sense of autonomy, whereas a prohibition of alcohol would be construed as having a lesser degree of control over their own choices. Lastly, if both of these activities, smoking and drinking, are taking place in a common room in the nursing home or assisted living environment, this is social drinking and smoking, and would represent another opportunity for elderly people to bond socially.

Therefore, advocating community entertainment in the elderly society and advocating the cultivation of the interests and hobbies of the elderly and other groups have an important role in improving the mental health and quality of life of the elderly.

4.3.2. New Form of Nursing Home Services

Core idea. Let the elderly not only get care but happiness through the freedom of choice. The new form nursing home seek to maintain the ability of elderly people to continue making choices for oneself, the ability to indulge in things that bring one comfort and a sense of satisfaction.

Elderly People. A happy environment will be provided that not only contain basic facilities but also entertainment facilities (such as swimming pool, Casino, karaoke...). It will serve elderly people a more amusing and entertaining life & engaging in activities. However, luxurious facility itself cannot make elders truly happy and spiritually fulfilled. To satisfy elder's spiritual needs, a fictitious currency will be established thus they could earn and spend their own money on things that they really like. This strategy could help them generate a sense of satisfaction because they could feel the regain of their value.

An online health system is also available for elder to check their health state. Dandelion Care Center, a nursing home in Japan, generate an online health system called SMILE, which include 5 section: Spirit, motion, independence, life and enjoy. Also, elderly people can choose their own rehabilitation plan, patient choice and they become the agents of the changes that will impact them.

Caregivers. For the nurses who directly provide care to patients (Helping rehabilitation training for the elders). Health promotion and injury prevention are essential for elder's physical health, so caregivers should supervise elderly people doing basic exercises because exercising

have been shown to be effective in maintaining and improving muscle strength. But one significant point is that caregivers should not provide over-empowered care that could lead the decaying of elder's ability. The caregivers also have their freedom to choose the job as a part-time or full-time. Mostly, they could select this as a part-time job, because most elderly people living in the community could perform ADL (activities of daily living) and have their independent choice, so the job of the caregivers is easier due to the fact that elderly people have the desire to do most of things by themselves.

Advantages. All the facilities are provided for the elders to achieve the idea of independent and voluntary. In such environment the healthy mental state of elderly people helps them better maintain physical health and at the same time the good health also decrease the chance of generating negative mood and the development of loneliness. It is a society where elderly people could find their value, regenerate of passion toward life and will motivate the elders to actively participate in rehabilitation training.

Finance. The internal mechanism of manage such a big community is based on a two-tiered system, which means that one (child) can pay for one's parents' convalescence. It is free for them to choose whether to do a lump sum payment or instalment payment for buying room in the community (including services). In essence, one also "pre-pay" for one's own future needs because once their parents gone, they could also move into the community and enjoy their life as a senior.

Limitations. Although the model could enhance the elders caring system, it also has some apparent difficulties. First, it is really hard to find such community due to the absence of government subsidies. In such situation, financial constraints would be paramount. Privately funded elderly care centers may create a financial burden that families cannot take on. One of the biggest obstacles that the development of these improved centers would inevitably face are the financial costs to build and effectively maintain them. One of the greatest factors impacting the elderly in all of the previous studies is lack of social and familial support, then work would have to be done to promote a social attitude that is empathic and receptive to the necessary changes. There has to be an overall shift in the existing attitudes towards elderly care, that there is more buy-in and meaningful social investment in the improvement of elderly care. A successful awareness campaign would be a start, but larger conversations held at the community level and higher would need to take place for much of this to come to fruition. If the view is maintained that it is natural that once we reach a certain age we are essentially discarded, then this will just be seen as a normal part of "the way things are."

5. CONCLUSION

Both elders in nursing homes and assisted living community experience loneliness and the major factor is lack of social& family support. Most significantly is that the two setting have advantages in maintain elderly

people's psychological well-being and prevent the development of loneliness due to their special characteristics. While we know the combination of the two settings might provide better services for elders, it is worthy to investigate more models of such combination style of providing care. Because it refers to housing and loaning, researchers could focus on economy perspective in the kind of service. With the development of society, concerns of elderly people's well-being should not be limited to physical care, governors should complete mental health services for elders: providing financial support & appealing more people pay attention to elder's care.

REFERENCES

- [1] ARSLANTAS, Hülya, et al. "Loneliness in Elderly People, Associated Factors and Its. Correlation with Quality of Life: A Field Study from Western Turkey." *Iran J Public Health*, Jan. 2015, pp. 43–50, doi: 10.1107/s0108270113015370/sk3488sup1.cif.
- [2] Challis, David, and Jane Hughes. "Residential and Nursing Home Care--Issues of Balance and Quality of Care." *International Journal of Geriatric Psychiatry*, U.S. National Library of Medicine, Mar. 2003, DOI: www.ncbi.nlm.nih.gov/pubmed/12642888.
- [3] Dong, X., & Simon, M. A. (2014). Vulnerability risk index profile for elder abuse in a community-dwelling. *Journal of the American Geriatrics Society*, 62(1), 10–15. doi:10.1111/jgs.12621
- [4] Dury, Rona. "Social Isolation and Loneliness in the Elderly: an Exploration of Some of the Issues." *British Journal of Community Nursing*, U.S. National Library of Medicine, Mar. 2014, DOL: www.ncbi.nlm.nih.gov/pubmed/24897833.
- [5] Ernst, J. M., & Cacioppo, J. T. (1999). Lonely hearts: Psychological perspectives on loneliness. *Applied & Preventive Psychology*, 81, 1-22.
- [6] Gu Libin& Xu Deguo, et al. "*Journal of Nanjing University of TCM (social science)* Vol2.0 No2. Jun. 2019.
- [7] Hazer, Oya, and Ayfer Aydiner Boylu. "The Examination of the Factors Affecting the Feeling of Loneliness of the Elderly." *Procedia - Social and Behavioral Sciences*, Elsevier, 26 Jan. 2011, www.sciencedirect.com/science/article/pii/S1877042810025553www.
- [8] Holmén, Karin, and Hidetochi Furukawa. "Loneliness, Health and Social Network among Elderly People-a Follow-up Study." *Archives of Gerontology*

and *Geriatrics*, Elsevier, 4 June 2002, DOL:www.sciencedirect.com/science/article/pii/S0167494302000493.

[9] HU Huixiu, WANG Zhiwen, LI Xiaowei, et al. "The status and relationship of loneliness and depression among older adultsold people in elderly homes" *School of Nursing, Peking University, Beijing, 100191 China /// Chinese Nursing Management-* 2014,14(10): 1033-1036

[10] Ma Xiaobin & Chen Changxiang. "Surveying The Status of Mental Frailty and Aloneness of The Advanced Ages." *The Chinese Health Service Management*, vol 37. No.2, 2020.

[11] Tomaka, Joe, et al. "The Relation of Social Isolation, Loneliness, and Social Support to Disease Outcomes Among the Elderly." *Journal of Aging and Health*, vol. 18, no. 3, 2006, pp. 359–384., doi:10.1177/0898264305280993.

[12] Laura Garcia Diaz, Marie Y. Savundranayagam, M arita Kloseck & Deborah Fitzsimmons (2019) The Role of Cultural and Family Values on Social Connectedness and Loneliness among Ethnic Minority Elders, *Clinical Gerontologist*, 42:1, 114-126, DOI: 10.1080/07317115.2017.1395377

[13] Liu Xueming, Chen Changxiang, et al. "Analysis of lonelines of housebound older senior and its influencingfactors." *China Academic Electronic Publishing House*. Vol.32. No.20, October, 2018.

[14] Lorenzen, Ulver Spangsborg, et al. "Defining Loneliness in Older Adults: Protocol for a Systematic Review." *Systematic Reviews*, 28 Oct. 2019, systematicreviewsjournal.biomedcentral.com/.

[15] Lynch, James J., and William H. Convey. "Loneliness, Disease, and Death: Alternative Approaches." *Psychosomatics*, Elsevier, 4 Oct. 2011, www.sciencedirect.com/science/article/pii/S0033318279737510

[16] Meyer, R. P., & Schuyler, D. (2011). Old age and loneliness. *The primary care companion for CNS disorders*, 13(2), e1–e2. doi:10.4088/PCC.11f01172

[15] Mullins, L. C., and E. Dugan. "The Influence of Depression, and Family and Friendship Relations, on Residents' Loneliness in Congregate Housing." *The Gerontologist*, vol. 30, no. 3, 1990, pp. 377–384., doi:10.1093/geront/30.3.377.

[16] Tu, Yu-Ching, et al. "Relationship between Perceived Empowerment Care and Quality of Life among Eld

erly Residents within Nursing Homes in Taiwan: a Questionnaire Survey." *International Journal of Nursing Studies*, U.S. National Library of Medicine, Aug. 2006, DOI: www.ncbi.nlm.nih.gov/pubmed/16310195.

[17] Tomaka, Joe, et al. "The Relation of Social Isolation, Loneliness, and Social Support to Disease Outcomes Among the Elderly - Joe Tomaka, Sharon Thompson, Rebecca Palacios, 2006." *SAGE Journals*, journals.sagepub.com/doi/abs/10.1177/0898264305280993

[18] WU Li'na, XU Hongbo, et al. "Relationship between loneliness and social anxiety in urban elderly with home-based care." Nursing school, Wenzhou Medical Univeristy, Zhejiang 325035 China. *CHINESE NURSING RESEARCH* February,2020 Vol. 34 No. 3.

[19] Xia Xiu. "Loneliness of Retired Old People and Its Influencing Factors." Qingdao Second Sanatorium, Jinnan Military Region, Qingdao 266071, China. *China Journal of Health Psychology 2015*, Vol 23, No. 11. doi: 10.13342/j.cnki.cjhp.2015.11.035

[20] Zhang, Z., and M. D. Hayward. "Childlessness and the Psychological Well-Being of Older Persons." *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, vol. 56, no. 5, 2001, doi:10.1093/geronb/56.5.s311.

[21] Zhou Jianhong & Ma Xiuqiang. "Study on the factors which have influenced the loneliness of the aged in nursing home in Shanghai" *Zhenxin Community Health Center, Jiading District, Shanghai 201824, China; Room of Staistics, Department of Health Services, Second Military Medical University, Shanghai 200433, China*, doi: 10.3969/j.issn.1003-9198.2013.03.009